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By RUFUS PORTER.

Each number of this paper is furnished with from two to five ORIGINAL ENGRAVINGS, many of them elegant, and illustrative of NEW INVENTIONS, SCIENTIFIC PRINCIPLES, and CURIOSITIES; and contains as much Interesting Intelligence as six ordinary daily papers, consisting of notices of the progress of Mechanical and other Scientific Improvements,—American and Foreign Inventions; Catalogues of American Patents,—Scientific Essays, illustrative of the principles of the Sciences of MECHANICS, CHEMISTRY, and ARCHITECTURE;—Instruction in various Arts and Trades;—Curious Philosophical Expements;—Miscellaneous Intelligence, Poetry and, occasionally, Music.

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TERMS OF ADVERTISING.—For 10 lines, or less, 50 cents for the first, and 12 1-2 cents for every subsequent insertion.

A Sigh from the Wood-Pile.

With fingers dirty and cold,
With hands all full of cracks,
A young man stood in a ragged coat,
Plying his saw and axe.
Saw! saw! saw!
As by the horse he stood,
And still he raised a terrible jaw,
About the burning of wood.

Work! work! work!
While the wind is blowing around,
And work, work, work,
Till the snow covers all the ground.
It's "O, to be a slave
Alone with the barbarous Turk,
Where man has never a soul to save,
If this be Christian work."

Work, work, work,
Till the hands begins to freeze;
Work, work, work,
Till the nose begins to sneeze.
Beach, and maple, and oak,
Oak, and maple, and beach,
Till over the horse I tumble down,
Attempting the logs to reach.

O, women with brothers dear,
O, women with husbands and sons,
It is not wood you're burning away,
But human creatures' thumbs!
Saw, saw, saw,
In no very pleasant mood,
Cutting at once, with a double draw,
My fingers as well as the wood.

Work, work, work,
My labor never grows less;
And what are its wages? A "fip" a day,
And at dinner a cooked-up mess.
That battered hat—this ragged coat—
A knife with a broken blade—
And my boots so patched that they can't be matched
At the place where they were made.

Work, work, work,
From weary chime to chime,
Work, work, work,
As chickens scratch for lime.
Oak, and maple, and beach,
Beach, and maple and oak,
Till over the weary, weary task,
My back is almost broke.

Work, work, work,
Through all the winter's gloom,
And work, work, work,
Seems ever to be my doom.
While underneath the saw,
The dust is rising high;
Yet still with aching eyes I see
The wood around me lie.

With fingers dirty and cold.
With hands all full of cracks;
Thus a young man stood in a ragged coat,
Plying his saw and axe.
Saw, saw, saw,
As by the horse he stood,
And still he raised a terrible jaw,
Wishing that there might be a law
Against the burning of wood.

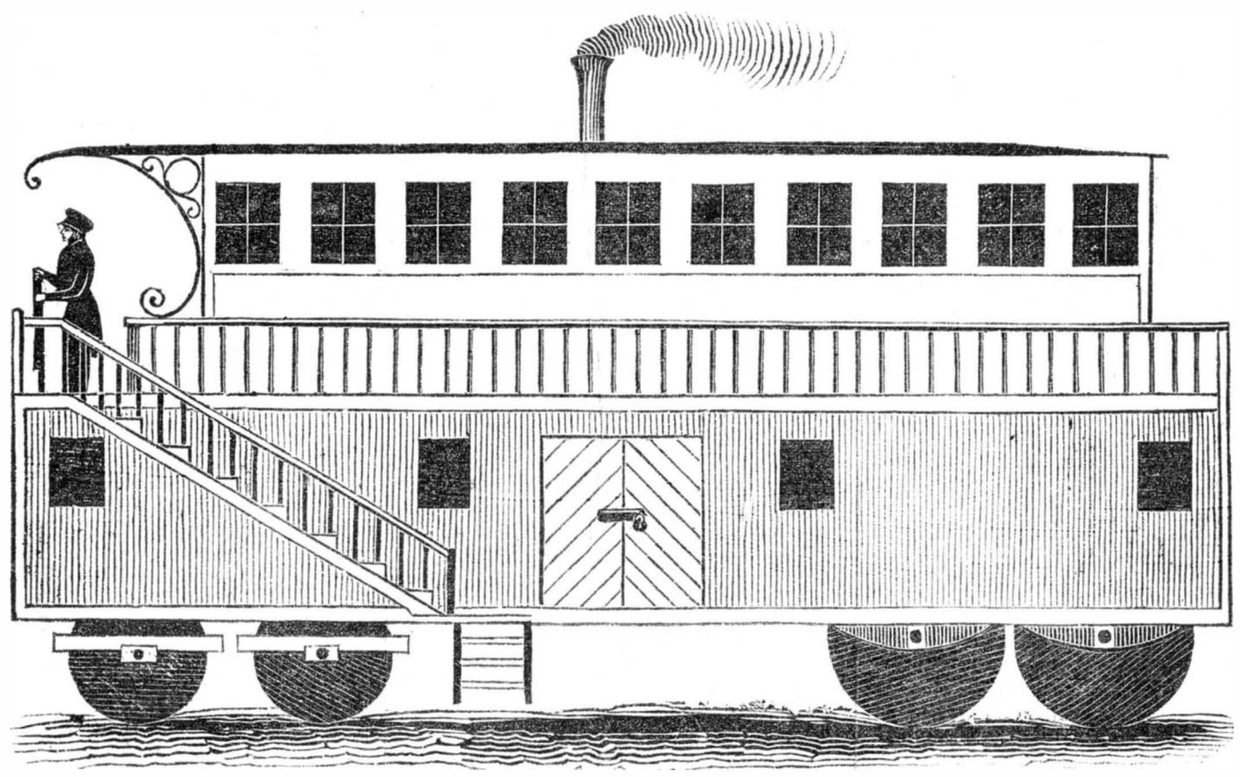
To Caroline.

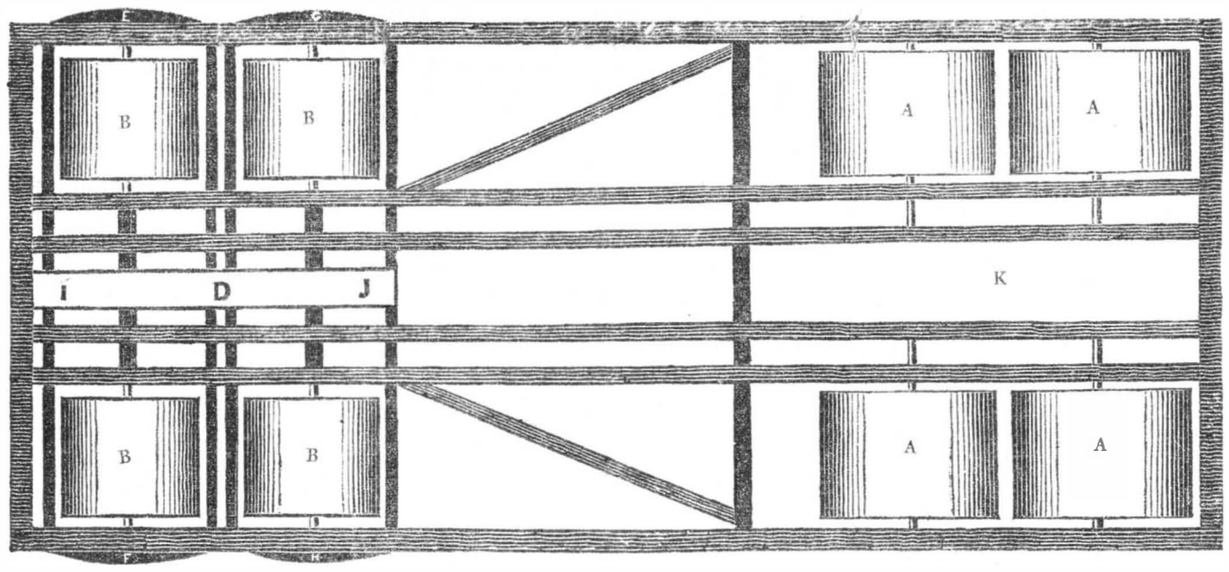
Like a fragrant Havana
Long kept from the light,
Ere its loveliness fadeth
In ashes and night;
Like a saint in his cloister—
A monk in his cell:
Like a York river oyster
Shut tight in his shell:
Like a toad in a grind stone—
A clam in the sea—
My heart is bound up,
Dearest maiden, in thee.

AFFECTING SCENE.

"What, my Jane, afflicts thee so?
What has caused thy tears to flow?
Why those sighs and why those moans?
Why those deep, unceasing groans?"
"*That plaguey dog came in to-day*
And with my bustle ran away!"

GEN. SEMPLE'S PRAIRIE STEAM-CAR.





There are few plans of enterprise, now in progress, to which more importance attaches, or which excites more interest, than that of navigating the extensive prairies by steam-power, and with carriages capable of accommodating 100 passengers, besides twelve to twenty tons of merchandize. Gen. James Semple, of Alton, Ill.—now in the Senate at Washington—some time during the last summer, adopted the very rational conclusion, that the power of steam could be as effectually applied to the propulsion of large carriages on the prairies, as to other purposes: and that whatever load might be drawn by 100 horses, might also be propelled by a 100 horse-power engine. He ingeniously projected and introduced the plan of using large cylinders in the place of wheels, and made a variety of experiments with regard to the practicability and requisite power, the result of which was highly favorable; and we are confident in the anticipation that no time will be lost in the introduction of efficient carriages of this construction, early in the approaching season. We have no particular instructions from the Hon. Inventor, with regard to the construction of the upper works; but having the foundation and general plan, we have presented the plan which appears to us the most convenient for the purpose intended.

EXPLANATION.—Fig. 1 presents a side view, or elevation, of a prairie car, forty feet in length, and two stories high; the upper part consisting of an elegant saloon for passengers, while the first floor is occupied by merchandize and the requisite machinery. A small smoke-pipe passes up through the centre of the saloon, but is enclosed in non-conductor casings so as to prevent the radiation of heat therefrom, when the weather is so warm that artificial heat is not required. The saloon is surrounded by a walk or promenade, and the steersman is stationed at the wheel in front of the saloon. Fig. 2 shows a plan of the frame and wheels, or cylinders, of the car. The car may be supported by either six or eight wheels, namely, four driving wheels. A A A A, and two or four leading or steering wheels, B B B B. The driving wheels (cylinders) are six feet in diameter, and five feet long;—the proportions being varied as occasion may require. The steering wheels,—when four are used,—are so connected and arranged that the body of the car presses equally on each of the four wheels;—each pair of wheels being enclosed in an independent frame E F, and G H, and the two frames connected by the centre-beam I J, while the body is connected to the centre-beam at D. The direction of the leading wheels is governed by means of a rope (not represented) which passes from each end of the forward axle or frame, and is conducted by pulleys to the steering wheel on the second floor. The second frame is connected to the first by two iron rods, which extend from the extreme ends of the second frame, to points somewhat nearer the centre of the first; so that when the direction of the first frame is changed, that of the second is also changed, but in a less degree; the second pair are thus made to follow the track of the first. The engine and machinery are placed in the space K between the driving wheels, and the power is applied to these wheels, either by cranks or by geer-wheels attached to the ends of the cylinders: the latter mode will be preferable if a rotary engine is used, in which case the two geer-wheels on each side, will be driven by an intermediate wheel, which will take to both at the same time. Either plan is sufficiently simple, and on the whole there is no doubt of the complete success of the enterprise.

PROGRESS OF IMPROVEMENT.—One of the first improvements in machinery was the fly-shuttle, invented in 1738, by which a weaver could do nearly double his usual amount of daily labor. The next was the *drop boy*, by which a combination of colors could be wove with three shuttles. This was invented in 1760, and in 1764 a carpenter by the name of Hargreaves, invented the spinning-jenny, which enabled a weaver to spin eleven threads instead of one. Arkwright's *water-frame*, invented in 1769, brought water power into use. Crompton, in 1779, completed his spinning mule. In 1787, Cartwright, a clergyman, produced the great power loom. The tresult of all these combined improvements, and labor-saving machines, was an increased production of cotton, which, from a million of pounds, run up o millions of bales.

THE FORCE OF HABIT.—Lowndes, the theatrical bookseller, presented a check at the Banking-house of Sir Wm. Curtis & Co., and on the cashier putting the usual interrogatory, 'How will you take it, sir?' Lowndes replied, '*Cold, without sugar.*'

COMICAL.—"Landlord," said a shrewd fellow, as he seated himself in the bar-room, and bore the silent gaze of the surrounding advocates in the bar, "do you know of any body that has lost a handsome ivory handle jack-knife, with four blades—two large ones and two small ones, having a piece of silver on one side and brass at the ends?" "No," replied the veteran landlord, whose proboscis resembled a ripe strawberry, tipped with a pearly drop of dew—"why, have you found one?" "No," said the wag, "but I thought I would inquire, so that if I should find one, I might know whose it was."

ECCENTRIC CHARACTERS.—The Duke of York, once on a visit to an asylum for the insane, saw two men who appeared more rational than the others. He stopped and asked them why they were there? "Why, in truth, sir, the cause is a very common one," answered one of the men. "We are poor and insignificant persons, so they call us crazy. If we were rich enough they would call us *eccentric characters*, and let us go where we pleased."

MR. HOGDEN WITH A HO.—Some years ago there lived in New York a lawyer, named Ogden, who having hired a cockney Irish servant, sent him to the Post-office for letters, but for several mornings he returned without them, on which account Mr. Ogden reprimanded him, having ascertained that there were several letters for him remaining in the Post office.

"An' sure," said Pat, "didn't I hask for letters for Misther Hogden, and didn't he tell me to go about my business, for there warn't any? Sure enough, your honor's name is Misther Hogden."

"Poh, poh," exclaimed the master, "not Hogden but Ogden—not Hogden with an H, but Ogden with an O. Now see if you can do better next time."

The servant went next morning, saying, "Is there any letters for Misther Hogden?"

The clerk looking over the H's again, answered no. "Sure now," says Pat, "it's not Misther Hogden with a *Haitch*, but Misther Hogden with a *Ho*."

This explained the matter, and Pat got his letters, and highly delighted, took them home to his master.

PATENT LAWS.

(Continued from No. 25.)

SEC. 4. And be it further enacted,—That it shall be the duty of the Commissioner to procure a duplicate of such of the models destroyed by fire on the aforesaid fifteenth day of December, as were most valuable and interesting, and whose preservation would be important to the public; and such as would be necessary to facilitate the just discharge of the duties imposed by law on the Commissioner in issuing patents, and to protect the rights of the public and of patentees in patented inventions and improvements: *Provided*, That a duplicate of such models may be obtained at a reasonable expense: *And provided, also*, That the whole amount of expenditure for this purpose shall not exceed the sum of one hundred thousand dollars. And there shall be a temporary board of commissioners, to be composed of the Commissioner of the Patent Office and two other persons to be appointed the President, whose duty it shall be to consider and determine upon the best and most judicious mode of obtaining models of suitable construction; and, also, to consider and determine what models may be procured in pursuance of, and in accordance with, the provisions and limitations in this section contained. And said Commissioners may make and establish all such regulations, terms, and conditions, not inconsistent with law, as in their opinion may be proper and necessary to carry the provisions of this section into effect, according to its true intent.

SEC. 5. And be it further enacted, That, whenever a patent shall be returned for correction and re-issue, under the thirteenth section of the act to which this is additional, and the patentee shall desire several patents to be issued for distinct and separate parts of the thing patented, he shall first pay, in manner and in addition to the sum provided by that act, the sum of thirty dollars for each additional patent so to be issued: *Provided, however*, That no patent made prior to the aforesaid fifteenth day of December, shall be corrected and re-issued until a duplicate of the model and drawing of the thing, as originally invented, verified by oath as shall be required by the Commissioner, shall be deposited in the Patent Office. Nor shall any addition of an improvement be made to any patent heretofore granted, nor any new patent be issued for an improvement made in any machine, manufacture, or process, to the original inventor, assignee, or possessor, of a patent therefor, nor any disclaimer be admitted to record, until a duplicate model and drawing of the thing originally invented, verified as aforesaid, shall have been deposited in the Patent Office, if the Commissioner shall require the same; nor shall any patent be granted for an invention, improvement, or discovery, the model or drawing of which shall have been lost, until another model and drawing, if required by the Commissioner, shall, in like manner, be deposited in the Patent Office. And in all such cases, as well as in those which may arise under the third section of this act, the question of compensation for such models and drawing, shall be subject to the judgment and decision of the Commissioners provided for in the fourth section, under the same limitations and restrictions as are therein prescribed.

SEC. 6. And be it further enacted, That any patent hereafter to be issued, may be made and issued to the assignee or assignees of the inventor or discoverer, the assignment thereof being first entered on record, and the application therefor being duly made, and the specification duly sworn to by the inventor. And in all cases hereafter, the applicant for a patent shall be held to furnish duplicate drawings, whenever the case admits of drawings, one of which to be deposited in the office, and the other to be annexed to the patent, and considered a part of the specification.

SEC. 7. And be it further enacted, That whenever any patentee shall have, through inadvertence, accident, or mistake, made his specification of claim too broad, claiming more than that of which he was the original or first inventor, some material and substantial part of the thing patented being truly and justly his own, any such patentee, his administrators, executors, and assigns, whether of the whole or of a sectional interest therein, may make disclaimer of such parts of the thing patented as the disclaimant shall not claim to hold by virtue of the patent or assignment, stating therein the extent of his interest in such patent; which disclaimer shall be in writing, attested by one or more witnesses, and recorded in the Patent Office, on payment by the person disclaiming, in manner as other patent duties are required by law to be paid, of the sum of ten dollars. And such disclaimer shall thereafter be taken and considered as part of the original specification, to the extent of the interest which shall be possessed in the patent or right secured thereby, by the disclaimant, and by those claiming by or under him, subsequent to the record thereof. But no such disclaimer shall affect any action pending at the time of its being filed, except so far as may relate to the question of unreasonable neglect or delay in filing the same.

To be continued.

A BRISK PLACE.—There is a good anecdote told about the little town of Portland, Indiana. While a certain steamboat was about 'putting out' from here, recently, for New Orleans, the mate, an old boatman turned to some passengers and remarked: "This little town, gentlemen, looks dull, but I tell *you* it is, *perhaps*, a mighty brisk place. About fifteen years ago, as I was going down with a flatboat to New Orleans, we stopped here to procure some provisions. I went up into the town, and seeing a coat hanging out of a shop door, *just took it*. The owner came after me—caught me—took me before a magistrate—I was tried—convicted—*took thirty-nine lashes—and was back to the boat in fifteen minutes—I'll swear!* I tell you, gentlemen, a mighty brisk little place is that *same* Portland."

The remainder of the Patent Laws will be completed in three numbers more.

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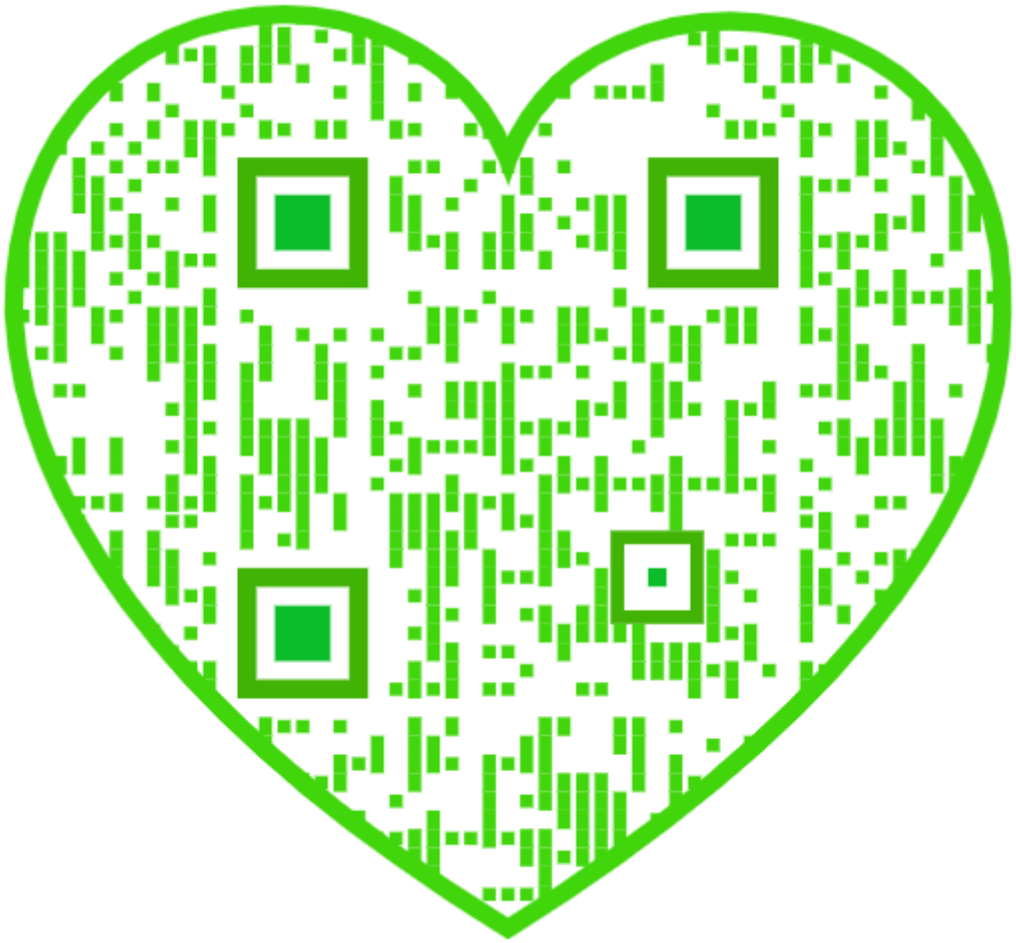
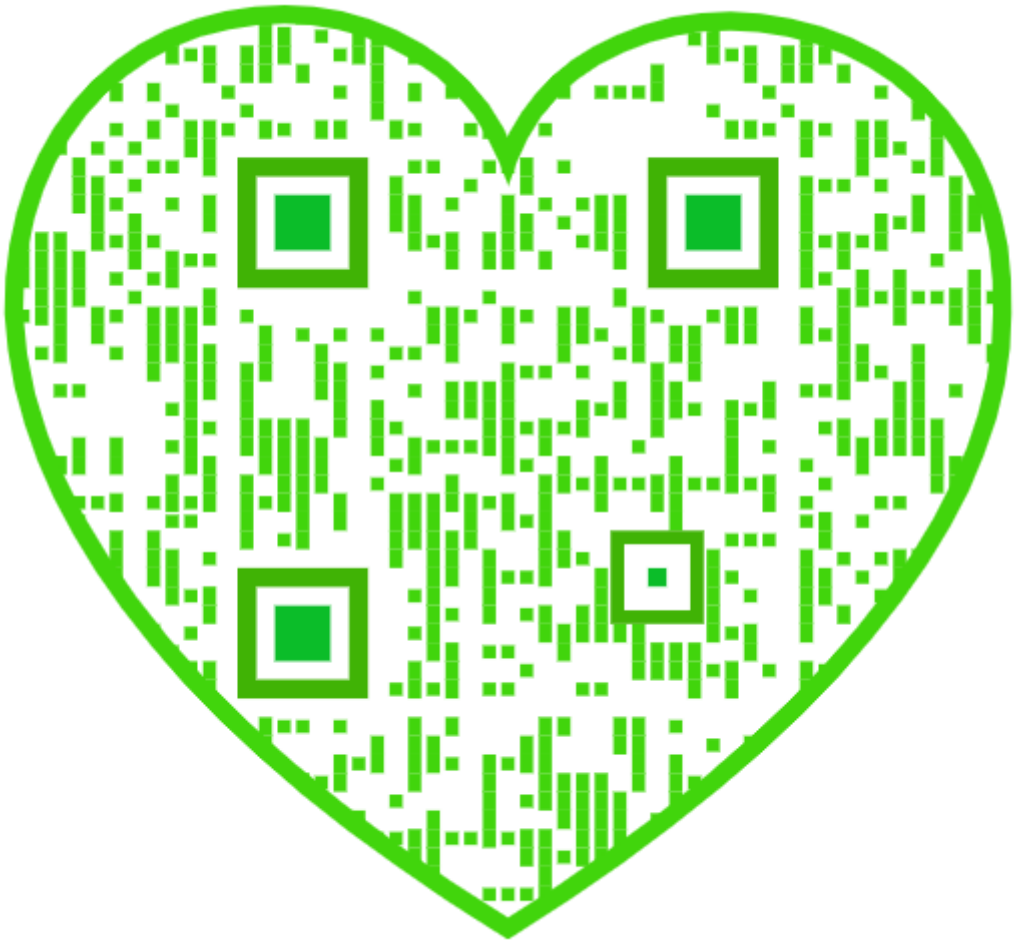




SCIENTIFIC AMERICAN

NEW-YORK, THURSDAY, MARCH 12.

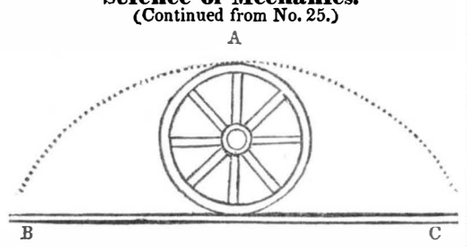
POST MASTERS—Who receive this paper, will confer a special favor by mentioning the subject occasionally to scientific mechanics.

Most Worthy Patrons,

This number completes the first half-year of the publication of the SCIENTIFIC AMERICAN, and also nearly completes our arrangements for making this paper more useful, interesting, and elegant in appearance than it has been hitherto. We would say to our friends who have generously patronized us from the commencement, and are disposed to continue their patronage, that we will endeavor to make our work perfectly satisfactory to you in every respect, and confidently hope you will derive an advantage from the intelligence which we shall introduce, equal to ten times the subscription price. We can assure you that the scientific and practical intelligence which we have already laid before you, has cost us more than $500 to learn; and we shall probably give an equal amount and variety during the next six months. But to those who may decide to withdraw we can only say,—Farewell: may you prosper, and never find occasion to regret the expense which this paper has cost you thus far. We should have been glad to have written your names on our wrappers a while longer; but if not, we will remember you with due regard. It has been distinctly expressed and understood that our arrangements are such that we are not fully at liberty to send this paper, even to our friends, beyond what is authorized by pay in advance. We trust no one will think hard of us for strict adherence to this rule; as such feeling would be ungenerous. We are constrained to pursue a course of fair business consistency, and believe that no one will withhold his patronage on this account. ED.

Science of Mechanics.

(Continued from No. 25.)



THE CENTRIFUGAL FORCE.—When a body is put in motion rotarily, whatever may be its form, every constituent part and particle thereof has a tendency to fly off in a tangent from the revolving body; and the force of this *tendency* is in proportion to the velocity of the motion or the boldness of the curve in which it moves. To explain the reason of this tendency we must fix attention on some constituent part; for instance a nail in the periphery of a wheel. The inertia of this nail, like that of all other bodies when in motion, tends to a direct course, and an exertion of considerable force is required, to divert it therefrom; and this tendency or propensity to move in a direct course, constitutes what is termed the *centrifugal force*. The extent of this centrifugal force may be ascertained by the following *rule*.—Multiply the radius in inches, by double the square of the number of revolutions per second, and this product by the twentieth part of the weight of the revolving body.—This rule applies when the body or object revolves round a stationary axis, or centre of motion: when the axle is in motion, in a direction at right angles with that of its own position, as in the case of a car wheel, the motion of a nail in its periphery is *not* rotary. When the nail comes in contact with the rail, its motion ceases in one direction, and commences in the opposite. It commences rising vertically, and describes a curve and descends again to the rail as represented by the dotted line in the cut at the head of this article: A, shewing the nail in the wheel; B and C, the points of its contact with the rail. Still the nail has a tendency to fly off from the wheel, or rather from a point central to its own motions; and as this tendency is greatest when near the highest part of the curve,—its velocity then being greatest,—some have supposed that the centrifugal force of constituent parts of a wheel when thus in motion, relieved the rail in some measure from the pressure of the wheel, and that consequently, the wheel had less weight when in motion than when at rest. This, however, is not the fact: for as considerable force is required to overcome the inertia of each part—the nail for instance—and put it in motion when it leaves the rail, this force exerts a corresponding re-action downward, which adds to the weight of the wheel on the rail. Again, when the nail is descending towards the rail, and its velocity is being diminished, an exertion of force becomes requisite to overcome its momentum, and this force also produces a re-action, which is exerted downward on the rail; so we find that the extra centrifugal force upward is counterbalanced by the force of a double re-action downward. With regard to the centrifugal force horizontally, it is also demonstrable that by the aid of inertia in one direction, and momentum in the other, the exertion of force outward from the axle of the wheel, is equal in each horizontal direction, to that of either of the vertical. Could it be made to appear by experiment that in any compound motion of which the rotary constitutes a part, the centrifugal force, with its allies, are any greater in one direction than in another, it would at once furnish a foundation for the "Perpetual motion:" for the machinery by which this compound was produced, might be placed on the end of a horizontal arm, projecting from a vertical axle, and thus by means of the compound motion, the continuance or maintainance of which will cost nothing in theory, a horizontal motion will be produced in the arm and axle with some force, but without deriving any power from the machine or its motion.

(To be continued.)

Illustrations of Chemistry.

(Continued from No. 25.)

FIRE.—None of our readers will be disposed to deny that they know something about fire; and many may probably think that they know "all about it;" but yet, our first philosophers, are far from agreeing in opinion on the subject, and find themselves at a loss to understand what constitutes the article, which is generally known by this term. It is well understood that fire is produced by the chemical action, called *combustion*, in the progress of which a combustible substance is decomposed, and re-combined with other substances, particularly with oxygen. But as it is well known that in most cases of combustion, and especially in that of resinous substances, there is a much greater quantity of hot gaseous vapor produced, than there is of atmospheric air decomposed, in furnishing the requisite oxygen to support the combustion, the liberation of heat even, remains a mystery, and the phenomenon of a large brilliant flame, is still more wonderful. That a lump of rosin contains a large quantity of latent heat, is easily admitted; but that it contains *latent light*, is more difficult to comprehend; and it appears more rational, to suppose that the light proceeds from some developement of electricity, produced by the decomposition. That oxygen is closely allied to electricity, is rendered evident by recent discoveries in the electrotype process; and the instantaneous burst of flame, and violent detonation produced by the combustion of a mixture of oxygen and hydrogen gases, may be considered to favor this point of theory. When this experiment is made, the two gases instantly combine in the formation of water, but are reduced to less than the 2000th part of their original volume.

EXPERIMENTS.—Having filled a phial with oxygen gas, take a lighted wax taper, and having extinguished the flame, leaving the snuff only burning, insert the end of it within the phial, and it will instantly ignite, and burn with great brilliancy.

Fill a long bottle with chlorine gas, and cover its mouth with a plate of glass. Provide some powdered antimony, tin, copper, or zinc, and sliding off the cover, pour either either of them into the glass, and the powdered metal will ignite before it reaches the bottom, and afford a beautiful shower of brilliant flame.

Fill two bladders, one with hydrogen, and the other with oxygen gas, and having fixed the stem of a tobacco pipe in the neck of each, place the two pipe-stems, so that the two streams of gas projected through them, may intersect with each other: then ignite the two gases at the junction, and a vivid and intense flame, will be produced, which will readily burn any of the metals that may be submitted to its action. By placing a lump of lime in this flame, a perfect "Bude light" will be produced.

(To be continued.)

Curious Arts.

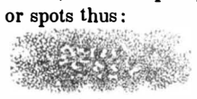
TO MAKE CRAYONS OF VARIOUS COLORS.—Crayons or pastiles consist of various colored pigments or paints, formed into sticks or rolls for the purpose of drawing and shading with them in the manner of lead pencils. But that they may be of uniform texture or hardness, different ingredients and materials require some variation in the management.—To make white crayons, nothing more is requisite than to mix superfine or refined whiting with alcohol, to the consistence of soft putty: form it into rolls of convenient length and size, and let them dry; or the whiting may be mixed with water and a sufficient quantity of burnt or calcined sulphate of lime to give the crayons a sufficient degree of hardness when dry. A great variety of elegant light colors may be formed by adding to the whiting prepared as above, small quantities of any of the colored pigments. The most proper colors for crayons are lamp-black, prussian blue, burnt umber, burnt terra-de-sienna, red-ochre, vermilion, lake, rose-pink, chrome-yellow, and Paris-green. Many other handsome greens are formed by mixing chrome-yellow with prussian blue, varying the proportions; and purples are produced by mixing rose-pink or lake with blue. Prussian blue and lake being each naturally of a binding nature, require only to be ground in water; but red ochre and vermilion should be ground in alcohol, or may have some quantity of the sulphate of lime mixed with them. Any of these colors may be mixed in any proportion with whiting, or with each other, each compound having a sufficient proportion of the sulphate of lime, to give it a proper degree of hardness and strength when dry. The proper length for crayons is from two to three inches, and the size about the same as that of a tobacco-pipe stem. It is customary in making crayons, to have at hand a large piece of chalk with a plain surface, on which to lay the crayons as soon as they are rolled; the chalk absorbs a part of the moisture, which makes them dry the sooner and without cracking.

TO CAST IMAGES IN PLASTER.—For this purpose a model of the figure that is to be cast, must be provided, and suspended by a rod or staff, one inch in diameter, and fixed in the top of the head. This model may be made of wood or chalk, or any other substance that is smooth, and sufficiently cohesive to support itself. This being prepared, mix fine sulphate of lime with water, to the consistence of soft putty, and having brushed some olive oil over the model, cover it completely with the plaster, which must be applied and spread over it with the hands, to the depth of two inches or more. When the plaster is nearly dry, divide it into several parts with a thin blade, so as to take it off from the model without breaking any part. When the several parts of the mould are dry, oil them inside and put them together as before, and bind them with pieces of tape or twine, set the mould upright, and fill it with a fresh mixture of sulphate of lime and water, of as much consistence as may be poured in through the aperture at the head. This plaster should be poured into the mould as quick as possible after being mixed, otherwise it would become too stiff, and be spoiled. The plaster in the mould will soon cohere, so that the mould may be taken off, and the figures set up to dry; and the mould being oiled and put together again, is ready for another cast.

The Art of Painting.

Continued from No. 25.

LANDSCAPE PAINTING ON WALLS.—In painting the pictures of steamboats, ships, and other vessels, it is convenient to have a variety of outline drawings of vessels of various kinds, sizes, and positions, on paper: the back side of these papers are to be brushed over with dry venitian red; then by placing one of the papers against the wall, and tracing the outlines with a pointed piece of iron, bone, or wood, a copy thereof is transferred to the wall ready for coloring. The painting of houses, arbors, villages, &c., is greatly facilitated by means of stencils; (perforated pieces of paper, described in a former number.) For this purpose several stencils must be made to match each other; for example, one piece may have the form of the front of a dwelling-house or other building, cut through it; another piece may have the form of the end of the same house, as viewed from an oblique direction: a third piece may be cut to represent the roof; and a fourth may be perforated for the windows. Then by placing these successively on the wall, and painting the ground through the aperture with a large brush, and with such colors as the different parts require, the appearance of a house is readily produced, in a nearly finished state. If the house stands on the second distance, the windows are painted with blue-black; on the third distance, the color used is a mixture of blue-black and sky-blue; on the fourth distance, a light slate-color, or sky-blue, a little changed with the color last-mentioned, is used. It has been before remarked, that all the colors used in representing figures on the fourth distance, are to be reduced with sky-blue, so as to give them a faint appearance. Trees and hedge-fences, or stone walls, on the third and fourth distances, are formed by means of the flat bushing-brush, before described. This is dipped in the required color, and struck end-wise upon the wall, in a manner to produce, not a full print, but a cluster of small prints or spots thus:



By adroit variation of the motions of this brush, all the variety of trees and shrubs may be represented in open ground, as well as forests and distant woodlands. The first color used in trees of the third distance, is a mixture of forest-green, blue, and white; the green predominating. This color is applied the heaviest on the side opposite the light, termed the shade side. The light side is then formed with the same, or a similar brush, and with lemon-yellow, slightly tinged with green. The stocks of the trees are first drawn with slate-color, and heightened with horizon red. In painting forests, it is common to apply a diversity of colors in the heightening, such as lemon-yellow, yellow-green, French green, vermillion, yellow ochre, and sometimes white. For the trees and woodlands of the fourth distance, a pale blue color, slightly changed with green is used. In the illustration at the head of this article, a variety of trees with fields and fences, are represented in miniature; but the coloring will be more fully described in our next number. We purpose giving a dozen or more outline designs, for the use of young practitioners.

To be continued.

Railroad Intelligence.

RAILROADS UP THE CONNECTICUT VALLEY.—Leaving this City by steamboat at 6 1-2 A. M., passengers are aboard the cars at New-Haven a little before 12; in Hartford (36 miles) at 2; in Springfield, Mass., (26 miles farther) at 3,—and here find trains in readiness to take them to Worcester and Boston, to Pittsfield and Albany, or to Northampton, (20 miles farther up the Connecticut) as their errands may call them. The track from New Haven to Hartford, though fair, is to be relaid next season or soon afterward. The Springfield road is new and excellent, and is run at the rate of a mile in two minutes. Three trains each way are run over it daily; only two (passenger) trains each way over the route from Springfield to New-Haven. The track up the valley, from Northampton to Greenfield, some 20 odd miles, is to be graded and laid before another winter; and the brief remainder of the distance to Brattleboro', Vt. will probably be finished the following year.

THE PETERBORO' AND SHIRLEY Railroad Company have accepted the act of incorporation, and authorized a committee to petition the Legtslature for an alteration in the charter to enable the company to commence the road in Groton instead of Shirley. The capital stock is to be $210,000.

WESTERN AND ATLANTIC, GEORGIA, R.R.—This road is now in use to Oothcaloga, on the Oostenaula river, a distance of 251 miles from Augusta, and 388 miles from Charleston. There remains now but about *thirty-five* miles to be constructed, to complete the road to the Tennessee line; and only about 140 miles to Nashville, when a steam navigation will be opened from Portland in Maine, by the way of Charleston, Augusta, and Nashville to St. Louis, and the whole west; and for this last link, a *very favorable* charter has been granted by the Tennessee Legislature.

CONSEQUENCE OF WAR.—A Mr. Herman, of Sodus Bay, recently discovered two large eagles fiercely engage in mortal combat, and while thus engaged he armed himself with a club, and so intent were they in the fight that they did not notice his approach, and he killed them both.

Galvanism.

Continued from No. 25.

ELECTRO PLATING.—Having in former numbers described the general process, we shall now proceed to particular imitations. To imitate the pale gold, such as is generally used for spectacle bows, the mixture of solutions should be such as to show the gold and copper about equal at the ordinary distance from the pole-point, and the solution of silver may be added drop by drop, or in very small quantities till the color of the working alloy will compare with the sample when brushed with whiting, and dryed by being rubbed with boxwood saw-dust. If when the color is nearly perfect, the copper appears to predominate, it may be corrected by removing the articles a little farther from the point; and *vice versa*. Ordinary jewelry,—bracelets, rings, and lockets, require a larger proportion of gold, or less of copper. Pencil-cases require a peculiar color, which is difficult to manage without some experience. The process may be commenced with the common jewel solution; but after the process has proceeded for some time, the cases should be removed to a solution consisting of gold and silver, unusually dense, and with a strong action, or in a solution quite warm. A minute portion of copper may be admitted, but if the action is very strong, two or three per cent. of copper will be sufficient. The old French gold watches may be imitated with gold and copper without silver; but the modern elegant watch gold requires a mixture of gold, silver, and copper, in the proportion of ten, three, and one. If the battery and solutions are strong, however, a larger proportion of silver may be admitted. It will be understood that the operation on each article is stronger when there are but a small number or quantity in the font, than when there is a greater quantity: and on this account, it may be sometimes requisite to reduce the quantity when about finishing, or when a deeper color is required, instead of attempting to increase the power. If the current of electricity is too strong, or if an article is placed too near the positive point (which is the wire connected to the negative pole or copper plate of the battery,) the article will become black or brown, and must be immediately taken out and brushed with whiting: but such occasions should be avoided. In plating watch-cases, the case should be kept open most of the time, but occasionally closed, and especially in finishing, if the outside is required to receive a color different from the interior. We mentioned in a former number, that the art was known (though never published) of plating iron, pewter, and britannia with silver, by a speedy and ready process direct; and after some hesitation on the subject we have concluded to publish the process in our next number, although it is not probably known to three individuals in the United States.

To be continued.

New Inventions.

NEW BRICK MACHINE.—Messrs. Cutbertson & McMillen have in operation, at Cincinnati, a new brick machine, which excels any thing of the kind in use. The clay, in a crude state, is thrown with a shovel into a hopper, in which a mill, or pulverizer, is placed over the upper press-wheel in such a manner as to discharge the clay into the moulds on both sides of the press-wheel. The moulds being filled in this manner with pulverized clay, pass under the press-wheel twice—giving the brick a double pressure and shaving them smooth by means of a knife attached to the machine. The bricks are then thrown out of the moulds by an admirable contrivance on a table at each end of the machine, at the rate, the proprietors say, of 5000 per hour, sufficiently hard to be attached to the kiln. As the whole works will be under cover they can work as well in rainy or foul weather as when it is dry.

PORTABLE SAW MILL.—Mr. George Page, of Baltimore, has invented a portable horse-power mill for sawing timber. It is said to be capable of cutting, with a four horse power, from 1000 to 1500 feet of timber per day, or from 1800 to 2000 feet per day with a six horse power. One great advantage it possesses is the facility with which it can be removed to any point, making it invaluable to persons owning large timber tracts, and saving the expense and trouble of removing heavy logs.

RAPID WEAVING.—Mr. John Pendar, of Amesbury, Mass., informs us that he has invented and put in operation an improved loom that will run 100 picks per minute with 24 harness shafts. This is far beyond any weaving we have ever witnessed, and the invention must prove very important to manufacturers. He is about securing a patent for the invention, and establish the business of manufacturing the looms.

CARPET WEAVING.—M. Bigelow, an ingenious American artisan, has invented a power loom for weaving grain carpets, which is already in use by the Lowell Company, who have set 50 looms in motion, and expended nearly $100,000 in this branch of manufacture. The carpets produced are of the finest quality. Mr. Bigelow has also completed a machine for the manufacture of Brussels carpe ting, which has every prospect of success. He has also invented a machine for the manufacture of the Marseilles quilt, a species of work seldom attempted in this country.

THE PROTEOSCOPE.—This is the name of an invention now being exhibited in Boston, and by which the perfect portrait of any person is readily produced as large as life, on canvas. Such an invention has long been a desideratum with artists, and we are truly glad to hear of its introduction.

A FISH TRAP.—The New Haven Register gives an account of the latest Yankee notion, in the shape of a patent spring-hook. By a very delicate but ingenious machine, as soon as a fish attempts to nibble the bait on the hook, a second hook comes down and catches him on the back of the head, and he is a "gone sucker."

AGENTS WANTED.—Many travelling and local agents are wanted, to introduce and extend the circulation of this paper, in every principal village in the United States.

VARIETY

"The Spud," is the title of a new paper, hailing from New London, Conn. It is edited by Bottle, published occasionally, and devoted to rumsellers and their sympathizers. Give it to 'em, Spud!

There has been a great run on the banks—that is, on snow banks,—within a few days past; and if the snow goes off suddenly, it will cause a great run on the banks of the rivers.

Professor Silliman announces the discovery of three new metals. It is surmised by a cotemporary, that he has been visiting some of the mock-auctions of this city.

The Philadelphia Ledger is endeavoring to effect a reform among the hogs of that city, and advises them to follow the example of editors, and stick to their pens.

The ship Liberty sailed for England last week, with 24,000 bushels of corn and 35,000 barrels of Indian meal. John Bull may learn the use of hasty-pudding yet.

During the reign of Henry VIII. seventy-two thousand persons were executed for crimes; yet with all this severity the number of criminals was not diminished thereby.

A Colporteur, at the Charity Hospital at New Orleans, recently distributed to a Frenchman, a Spaniard, a Portuguese, a Norwegian, a Swede, and a Dane, each a tract in his own language.

The Pennsylvania Senate have re-considered the vote of rejection, and finally passed the bill granting the right of way for the extension of the Baltimore and Ohio railroad to Pittsburg.

The Albany Knickerbocker wants a machine capable of writing racy editorials, "without any attention from the engineer." Will some Yankee set his wits to work on the subject.

The clergymen of this city, or their friends, in order to draw full houses, have adopted the practice of publishing, beforehand, notices of the performances at the various churches on Sundays.

A mathematician is teaching the clerks at Washington a method whereby one can add up the largest column of figures in five seconds. His improvement must be an important one.

A horse lately ran away with a sleigh, in which were a gentleman and two ladies. He passed through Nashua, N. H., but has probably brought up somewhere by this time.

A bill has been reported in the Massachusetts Senate, for supplying the citizens of Boston with water from Long Pond in Framingham, about 20 miles distant.

The Paris Constitutionnel reports 94 cases of premature interment having occurred in France within 50 years; seven of the persons recovered, in consequence of the falling of their coffins.

In a recent case of Breach of Promise in London, the defendant advanced the plea that the lady *had never requested him to marry her*. The girls must not be so backward.

A new paper,—the "Impartial,"—has been started in Louisville, (Ky.,) the editors of which, to ensure promptness, have undertaken to carry the paper themselves. It must have a large circulation.

In 1812 the commercial tonnage of Great Britain was three times as great as that of the United States. At present the commerce of the two countries is nearly equal.

An ancient writer tells of a very beautiful young man, who actually scarred and disfigured his face, to prevent injuring the hearts of the young ladies of his neighborhood.

It is stated that sheep can be bought in Mexico, for fifty cents, with good fleeces, which would here command two dollars. It is a chance if some Yankee does not make a speculation of them.

The amount of duties paid on imported ardent spirit, during the last year, amounted to $1,535,434. The damage occasioned thereby will amount to ten times that sum.

A company of young men in Brooklyn propose building a steamboat 350 feet long, and that will cost $200,000, and run thirty miles an hour. We should like to see them do it.

A thunder-storm occurred at Mobile on the 13th ult., during which a young lady, sixteen years of age, was killed by lightning.

A down east skipper states that the crew of his craft consists of an old man, a little boy, a darn'd fool, and a Frenchman.

The pitch-holes in some of the streets of Albany are represented to be four or five feet deep. The sleigh-riding girls, don't will to have them levelled.

Morse's magnetic telegraph has been adopted in Austria in preference to all others. It is evidently the most simple and easy of management.

The oil-cloth business is extensively carried on in Hallowell, Me. The value of the manufacture is estimated at $250,000 per annum.

Fifty canal boats are building at different yards in Rochester, for the spring business. Their aggregate value when completed will be about $75,000.

"Ma, what is a bustle?" honestly enquired a little boy of his mother. "A *bustle*, my dear, simply means a *rump-us*," calmly replied the lady.

Enticing ducks by decoys, or otherwise for the pupose of shooting them, is decided to be a crime of *sea-duck-tion*.

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The Workingman's Reply

TO THE INSULTS OF A WOULD-BE GENTLEMAN.

Ah! think'st thou I would bow me down
And lick the dust before thy feet,
Or tremble at thy demon frown,
And oaths that fiends would scarce repeat?

Look on this brow, this sun-burnt cheek,
And tell me then, if thou canst see
Aught there that seemst to mark or speak
A craven, menial soul in me.

Ay, look now on this stalwart frame,
Its sinewy limbs, and tell me then
If I was born to bow in shame
Before the glance of other men.

No, I was never marked a slave—
The God I worship made me free,
And that free spirit which he gave,
Fears not, nor bends to man like thee.

Go make yon fawning reptiles shake
And cringe, like spaniels, at thy nod.
Those fools that think that wealth can make
The very prince of hell a god.

Yes, go and show thy lordly pride,—
Rejoice to see such menials cower
Beneath thy glance, while I deride
Thy threatenings, and defy thy power.

Activity.

Open the casement, and up with the sun!
His gallant journey is just begun;
Over the hills his chariot roll'd,
Banner'd with glory, and burnish'd with gold:
Over the hills he comes sublime—
Bridegroom of Earth, and brother of Time!

Day hath broken joyous and fair;
Fragrant and fresh is the morning air,—
Beauteous and bright those orient hues,—
Balmy and sweet these early dues.
O, there is health, and wealth, and bliss,
In dawning Nature's motherly kiss!

Lo, the wondering world awakes,
With its rosy-tipp'd mountains and gleaming lakes:
With its field and cities, deserts and trees.
Its calm old cliffs and sounding seas;
In all their gratitude blessing HIM
Who dwelleth between the Cherubim!

Break away boldly from Sleep's leaden chain,—
Seek not to forge that fetter again:
Rather, with vigor and resolute nerve,
Up, up, to bless man, and thy Master to serve—
Thankful, and hopeful, and happy to raise
The offering of prayer, and the incense of praise!

Gird thee, and do thy watching well,
Duty's Christian sentinel!
Sloth and Slumber never had part
In the warrior's will, or the patriot's heart.
Soldier of God, on an enemy's shore!
Slumber and Sloth thrall *thee* no more.

Children at Play.

O, blame them not for their joyous strain,
For this is their hour of glee;
And soon the pall of manhood's care
Will cover their gayety.
Then let their laugh be loud and clear,
Chide not that little band,
Whose mirth must soon, alas, give way
To time's unsparing hand.

I love to hear their wild clear notes
Ring out on the wintry air;
They tell the joys which once were ours,
Ere we knew this world of care,
And the lively scenes of schoolboy sport
In Memory's glass are shown,
And a thousand scenes are remembered now
Which we thought forever flown.

Give them their fleeting hour of mirth,
For the clouds are gathering now,
Which will burst with fury on their heads,
And furrow each gentle brow.
And care will be where joy now sits,
And thorns where flowers appear;
O, chide them not! O, chide them not!
For soon will come's life's care.

The Bible.

Sceptic, spare that book, touch not a single leaf,
Nor on its pages look with an eye of unbelief;
'Twas my forefather's stay in the hour of agony;
Sceptic, go thy way, and let that old book be.

That good old book of life, for centuries has stood,
Unharm'd amid the strife, when the earth was drunk with blood; [got?
And wouldst thou harm it now, and have its truths for-
Sceptic, forbear thy blow, thy hand shall harm it not.

RAILROAD ANECDOTE.—One day last week while a train of cars on the Little Miami Rail-road stopped at the depot at Waynesville, a fellow who had never seen the like before, stepped on the locomotive which for the time being had been disconnected from the cars, and being curious to know and see every thing about it, happened to place his hands upon a valve, which he turned, and in an instant the locomotive started off in full speed, with the fellow upon it, hallooing and and bellowing at the top of his voice to stop the *tarnation thing*. The locomotive ran about seven miles, when, by accident, it left the track and stopped without any material injury' either to the unfortunate passenger or locomotive.

INFIDELITY OF THE CLERGY.—Had the ministers of the Gospel adhered with fidelity to the doctrines of the Master they *profess* to follow, the world would not now hear of a prospect of war between two civilized and christianized nations.—*U. S. Gazett.*

Those who study to see how near they may approach guilt and not be guilty, have no great innocence of which to boast.

Address to Mechanics.

The following rational and convincing address appeared a few weeks since in that highly respectable and intelligent Southern paper, the Greensboro' (N. C.) Patriot; and being in style and point superior to what *we* could write, we copy it entire, and should have done it before but for a modest reluctance to insert what is said in allusion to this paper. But that section being inseparable from the rest, our readers will please pass it over and read with attention the rational admonition of the main address, which is equally applicable to the mechanics of various sections of the Union.

"OUR MECHANICS.—Brethren—you lack knowledge—knowledge which you all have the means to purchase and the capacity to comprehend. Why don't you read some good periodical which sheds scientific light upon the trades by which you make your bread and sustains your standing in society? The 'Scientific American' continues its weekly visits to our table, sustaining its original usefulness and spirit: its abundant and valuable practical suggestions enable us to perceive what you lose by not keeping up with the mechanical improvements of the age. There is more useful information for the artizan in one number of this little sheet than can be found in a whole cart-load of the bragging mammoth 'literaries' of the North. The latter, we admit, subserve the purpose of their publication—that is, to *kill time;* the former, to *improve* it.

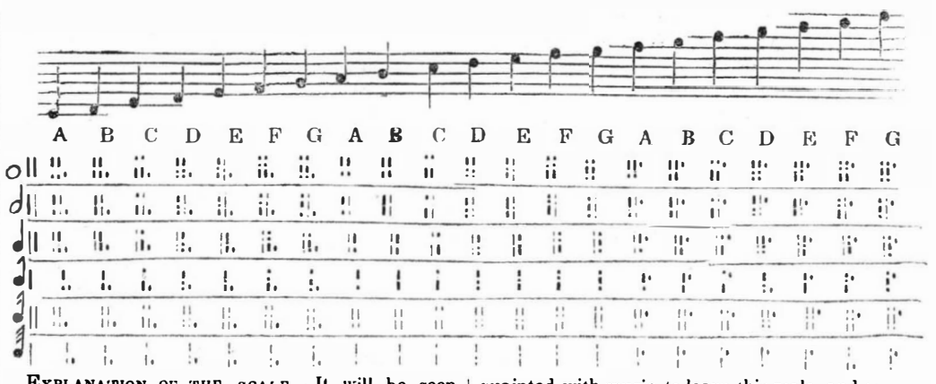
"Our mechanics must cultivate their minds, particularly in those branches of science connected with their callings, or they never can obtain that stand and influence in society which they ought always to command. They are hardy, honest, and industrious, as a class—the 'bone and sinew' and very foundation of society in our towns;—but they have not that degree of intelligence to which they might readily attain, and consequently lack that dignity and power in the community to which their numbers and the intrinsic respectability of their trades otherwise entitle them. It is with themselves to elevate themselves. They must employ their *heads* as well as their *elbows*. There is a wide field for the useful and beautiful display of mind—taste—genius—in the mechanic arts, as well as in the fine arts and the learned professions. The plodding hand, who does a piece of work merely as he had been made to do it at the apprentice's bench, without the application of a single original idea in the process,—need not expect to succeed equally with the energetic, inquiring artizan, who *studies his subject*, and takes advantage of all the suggestions he can command in this progressive age. Superior mind and superior cultivation are exhibited as palpably—as honorably and profitably—and always quite as innocently, in the mechanic arts, as in any other field of human effort or human ambition.

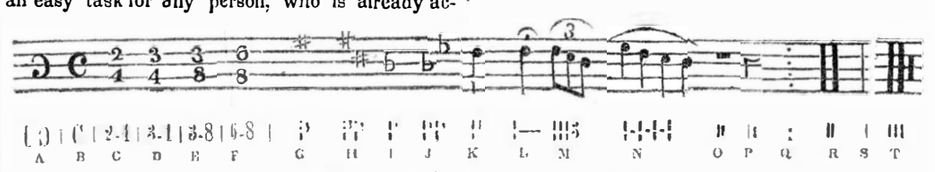
"Mechanics—do not depend upon your trades to elevate you. You must elevate your trades. 'Keep your shops, and your shops will keep you.' The lawyer, the physician, the divine, are not honored by their profession: if they have not capacity and acquirement to enable them to act up to the standard of their profession—*they*, and not their profession, are disgraced. Epaminondas, the greatest patriot and lawgiver of Thebes was once appointed by his envious enemies, who happened to be in power, to clean the streets of the city, with the design to bring disgrace and ridicule upon him by this mean occupation. The wise Theban remarked, that it was not the office which conferred honor or fixed disgrace upon the man; but the man had it in his power to honor the office, however low, or to disgrace it, however exalted. He forthwith set about the exercise of his new functions with such judgment and energy, that, in a short time, the streets of no city were to be compared with those of Thebes for cleanliness and beauty. And for a long period thereafter, the office of street scavenger was one of the most honorable in the city."

PHONOGRAPHY.—So numerous are the projections and introductions of what purport to be improvements, while three-fourths of them turn out to be humbugs, that people in general are slow in giving evidence to the high-flown representations of the excellence of either; and it has been on this principle that so little attention has been hitherto paid to Pitman's unrivalled system of Phonography. But its excellence has nevertheless overcome prejudice, apathy, and competition, and it is now coming into extensive practical use. As we promised, we have examined the different systems, and have no hesitation in giving a decided preference to that of Pitman, for the purpose of either reporting or for ordinary correspondence. In Boston this system is becoming quite popular, and the publication of a monthly quarto paper has been commenced, printed entirely in the phonographic character. We have the first number before us, and are pleased with its neat and systematic appearance. This work is published at 339 Washington street. The system is taught in this city by Mr. H. J. Hudson, who will accommodate one or two new classes early next week, at the basement of the church of the Divine Unity, Broadway. We can freely recommend the subject to the attention of our readers.

"A NOBLE BEQUEST," is the caption of an article in a Boston paper, announcing the donation, by John A. Lowell, of $100,000, to a Horticultural Society. Maj. Noah thinks the bequest a "very silly one," and that it would have been much better to have funded this amount and applied the *interest* to the education of fifty boys [in law and theology?] and girls [in French, and playing the piano?] For our part we have no opinion of reserving such capitals; but think it would have been much wiser in Mr. Lowell to have expended that amount in relieving cases of extreme poverty, and setting up honest young men in business. Them's our sentiments.

THE PITTSBURGH CHRISTIAN ADVOCATE.—This excellent paper has been recently enlarged and assumed the quarto form; but the pages are so arranged that the whole of either side can be read in order, without turning the sheet. We think it a considerable improvement.

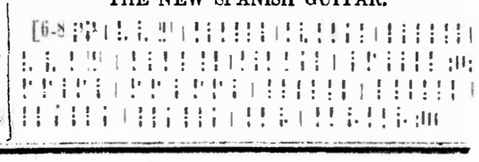
NEW SYSTEM OF MUSIC.

EXPLANATION OF THE SCALE.—It will be seen that this scale embraces three octaves, which are designated in the scale by a dot on the right of the notes, at the bottom in the first, and at the top in the third octave. The first column of characters are the notes of the old system, and the second column are rests or silent notes, which, by their diversity of form, distinctly indicate the lengths of the corresponding notes which they represent. All the notes of the same class correspond in their form with the silent notes on the left; but are distinguished therefrom by horizontal cuts across them; and by the different positions and arrangements of these cuts, are indicated the corresponding letter and sound of the notes which they severally represent. It will be an easy task for any person, who is already acquainted with music, to learn this scale, and to associate in his mind, each character with the corresponding note in the common scale. He will observe and remember that from the first notes, A B C, of the ascending scale, each character has a single cut, the position of the cuts ascending in the three notes; each of the second three notes, D E F, have two cuts, their positions also ascending. The seventh note, G, is widely diverse from either of the others, and will be readily recognized as the 7th note of the octave. Other characters, commonly used in music, accompanied by the corresponding characters of the new system, and with letters of reference to the following explanations, are presented below.



EXPLANATION.—A B C D E F; characters designating time or movement. G H, examples of sharps, indicating that all the notes in the strain, which stand on the same letter, or have the same tone with those to which the mark is applied, are to be sung or played sharp. I J, examples of flats, which also influence all the notes of the same tone in the strain. K, a point of addition, which extends the note one half its ordinary length. L, a hold, which extends the note, to which it is applied, to an indefinite length. M, point of diminution, which reduces the three preceding notes to the ordinary time of two. N, points of connection, or slur, which indicate that the notes thus connected are to be sung or played with a continuous sound. O P, examples of rests. Q is called a repeat, and signifies that the strain preceding it, is to be repeated. R, corresponds to a double bar, and is used to divide the tune into equal parts with regard to time. S is a single bar, and separates the different strains of a tune. T is called a close, signifying the end of the piece.

Agreeable to the foregoing rules, we submit the following beautiful though simple composition:

THE NEW SPANISH GUITAR.

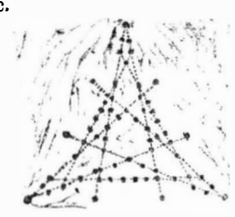


TYPOGRAPHICAL ERRORS.—A friendly correspondent reminds us of several typographical errors which have occurred in recent numbers of this paper. We thank him, and shall in future, examine the proofs carefully instead of trusting that branch to others, as we have heretofore done, on account of a press of other cares. The most provoking blunder of this kind that we have seen, occurred in a small item in the last number, in which the word 'bread" was printed instead of "breathe." As the item is too good to be thus spoiled, we here repeat it.

"A lady in Boston having taken a severe cold, complained to her husband that it was difficult and painful to breathe. "I would not try my dear," was the soothing reply of the kind husband."

We will improve this occasion to notice another error which occurred in consequence of a press of business, which compels us to do many things in haste; namely, the Springfield answer to the "Orchard Puzzle," which was inserted as correct, appears to be *not* correct, any way we can fix it. The author thereof must therefore forego the credit of a correct answer.

Speaking of puzzles, we have received several additional correct answers to the military problem, of No. 24. Those of C. B. H., of Havre de Grace, Md., and of C. H. of Boston, are essentially shewn in the figure presented below. The answer furnished by N. P. B., New Bedford, Mass., is also correct. Two others, on the plan shewn in our last number, were too late.



ILLUSTRATED BOTANY.—The second number of this work, incomparable in elegance, is before us; but it is impossible to give our readers any correct idea of its beauty, unless they see the work itself. This number contains four superbly colored engravings, either of which would be cheap at 25 cents single. It has been remarked that the most appropriate employment for beautiful young ladies, is the cultivation of flowers; and no one who peruses this work can fail of imbibing a taste for this employment, at the same time acquiring much interesting and useful intelligence in this branch of botanical science. Published by J. K. Wellman, 118 Nassau st. $3 per annum.

LIBERAL PROPOSITION.—We propose to furnish a copy of Wellman's new work,—Illustrated Botany:—without extra charge, to any five new subscribers, to the Scientific American, who may send ten dollars in advance for five copies at one time, by mail or otherwise, within one month from this date.

THE SOLAR ECLIPSE.—Don't forget to remember that a very conspicuous eclipse of the sun is to be exhibited, (weather permitting) to our citizens, in the Park, in front of the City Hall, on the 15th of April. Considerable preparations are being made for the occasion, but lest you should forget the day, or not understand the process, call at 163 West 21st street, or at this office, and procure one of Smith's elegant maps, prepared expressly for the purpose. Price of the map, and accompaning explanation, 25 cents.

ARTS AND TRADES.—This subject is unavoidably deferred till our next.

Deferred Articles.

GENERAL PAREDES.—Going the rounds of the newspapers is an account of this gentleman, whose career attracts much attention to him just now, which we condense for the benefit of our readers. He is a man of about forty-eight years of age, frail and slight in form, and not ungraceful, tho' maimed by the wounds of many battles. His eye in repose is as mild as sunshine. He is known throughout the Republic as El Manco Paredes—or "hand wounded." He may be considered the Murat of Mexico, as he knows no fear in his almost mad and reckless daring. He was once banished to this country, and as an exile studied our institutions and worshipped our enterprise. His American feelings are strong, and in all his business concerns is a man of honor. Amid the thousand opportunities he has had for amassing an immense fortune, his poverty has remained a monument of his patriotism. It was his skill and idomitable courage that made Santa Anna President of the Mexican Republic; and when he trifled with the liberties of his country, it was he who hurled the dictator from place and power, and banished him an exile in a land of strangers. A favorite of the people—he is above the tawdry and garish military pomp and display that oftentimes cloys and disgusts them. A favorite with the army—he never lost a battle. A favorite with the priesthood, he has ever advocated their rights and been their steadfast friend. The commander of the forces and governor of one of the richest departments of the republic, his influence is seen and felt throughout the land.—*Boston Sun.*

THE MORMONS—We gather from several articles in the Warsaw Signal, and other quarters, that a portion, if not the whole, of the Mormons intend soon to commence their pilgrimage to California. That they should begin their journey so early in the season—before the winter has terminated, and long before grass shall appear, upon which to subsist their cattle and horses—is hazardous, and likely to to be attended with severe trials and much suffering. But is stated that from ten to twelve hundred have already crossed the river from Nauvoo, and encamped on Sugar Creek, Iowa, seven miles distant. Among them were the *Twelve*, the High Council, all the principal men of the Church, and about one hundred females. They were several days and nights in getting across the river. It is said to be the plan of the leaders to send this company forward as a *pioneer corps*. They are to proceed about five hundred miles westward, where they are to halt, build a village, and put in a Spring crop. They are to remain there until those who follow in the Spring reach them, when another pioneer company will start for a point five hundred miles still farther west, where they will stop, build a village, and put in a Fall crop.

The company remaining behind will, in the spring, move on to this second station; and in this manner they hope to accomplish the long journey which is in contemplation. Many of those who now go as pioneers are to return, so soon as their crop is in, for their families. It is said in the Signal tha *the Twelve* crossed the river on Sunday night, apparently apprehensive of some visitation from officers who might interfere with their departure.—They left behind them, as agents for the sale of the remaining property, A. Babbit, Fulmer, and Heywood, formerly of Quincy.

The debt of Pennsylvania is stated to be $40,986,393 22. We should think it advisable to pay off the odd cents so as to reduce the sum to even dollars.

How shall I obtain Faith?

Thousands of times this question is asked, at least mentally, by those who are honest-hearted enough to allow the weight of rational evidence, concerning a future state of existence, of eternal immortality, and act in accordance with this conviction. The important truth is readily learned from the scriptures of both the Old and New Testaments, that there is one only possible way of salvation, and that is by faith in Christ, the Almighty Savior and glorious centre of divine perfection. This truth naturally leads to the enquiry, "How shall I, or how can I obtain faith that I may be saved at last, and enjoy this promised never-ending life and joy?" And many a humble soul, who has become willing to obey the gospel injunctions, and submit to every disgrace and privation, for the sake of this great salvation, still complain of the want of faith, and still enquire how they shall obtain the true faith which is unto life; and are prone to imagine that they can do nothing right without it. Perhaps the reader of these lines, so far sympathises with the anxious enquirer, or on his own account, feels the risings of desire to know the true answer to this important enquiry. It is admitted that "faith is the gift of God," and believers very properly pray for the increase of it. But, to answer the enquiry, the sure and direct mode of obtaining faith, is to *obey the Word;* not that faith is altogether produced by works of obedience, but that it is thereby manifested. For unless the enquirer has faith already, he will not obey. Therefore, if he does obey, the act of obedience is proof positive, that he does possess the very faith which he so much desired; while, on the other hand, if he does not obey, his disobedience is proof positive that he has not true faith. There is surely something beautifully sublime in this idea; or rather in this fact. Faith and obedience are so completely inseparable that no person can have the one without doing the other; nor do the one without having the other. But let it not be understood, that the obedience which evinces the genuine faith, is a mere tything of mint, &c., while the weightier matters are omitted: not merely joining a worldly church, assuming gravity of deportment, and partaking of the sacraments; not merely paying honest debts, practising family prayers, giving a few shillings to the poor, relating experience in conference, and reproving sin in others. All this may be done, without either pure obedience or faith. But let him read the pure words of Christ and his apostles, and obey fully whatsoever is therein commanded, leaving the result with Him who gave the word. Let him do this, and both faith and joy will revive, while he will most assuredly have his name cast out as evil, even by the professing church, and will be subject to persecution enough to entitle him to claim all the most precious promises, which will then sparkle brighter than diamonds in the sacred pages. Let him do this, and he will have no occasion to lament the absence of faith, nor to doubt his title and prospect of inheritance in the happy realms where brilliant beauty and joy shall never, NEVER end.

GENUINE RELIGION.—How beautiful is that religion which teaches to love God above all things and my neighbor as myself! Religion is benevolence, and benevolence includes every virtue. The benevolent caunot be uncharitable, cannot be unfaithful, cannot be censorius, cannot be impure in act or thought, cannot be selfish; they love God and their neighbors, and they do as they would be done by. But who is religious? who is benevolent? who is at all times pure in thought and deed? who is at all times free from censoriousness, from uncharitableness? None,—no, not one. The precepts taught us as those on which "hung all the law and the prophets," the love of God and the love of our neighbor, may be impressed upon the heart and have the whole individual assent of the understanding; while the mind is in this state the individual is religious. But the cares of the world and its jarring collisions, must at times occupy the thoughts, and divert the mind from the wholesome state. The passions which have been cherished by bad education; the indulgences that have become habitual before the beauty of wisdom was perceived; the thousand and ten thousand occurrences which tempt the rich to uncharitableness, and the poor to envy and malice, all by turns banish the truth from the mind. This has led men to the desert and to the monastery; to become hermits and monks; forgetting that religion requires to *do* as well as to suffer. Truth becomes effective by frequent contemplation; and the habitual recurrence of its precepts induces practice.—*Selected.*

GOD'S PROVIDENCE.—That "the eyes of the Lord are over the righteous," and that "His ears are open to their prayers," that He, without whom not a sparrow falleth to the ground, regardeth his servants as of more value "than many sparrows;" that our times are in His hands, and that, by the promise of deliverance, He hath encouraged us to call on him in the day of trouble; are doctrines which, in some sense or other, must be admitted by all who admit the inspiration of Scripture; and they are so consistent in themselves with the attributes of God, and so necessary amid the dangers and sufferings of our mortal existence, that if something of the kind were not to be found in Scripture, the omission might be almost enough to make it probable that our religion did not come from God.—*Exc.*

ONE OBJECT.—Sound philosophy and revealed religion are naturally connected with each other.—However widely they may differ as to the manner in which they may severally proceed, they are both tending towards one common object, the establishment of truth. Philosophy sets out in its pursuit of this object from the lowest point.—Religeon from the highest; the former begins with the last effect, the latter commences with the first cause.

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ILLUSTRATED BOTANY.

Edited by John B. Newman, M. D.—Circumstances make the man, and very often, as in the present case, the book. For years there has been a steadily increasing interest felt for the vegetable kingdom. Latterly, this taste has been partially gratified by the literary magazines, which owe their popularity, in a great measure to the beautiful flower prints that adorn them. One specimen a month, however, is not enough, nor is it required in such connection. A work relating exclusively to the subject, is wanted by the public, and this want, the present enterprise is intended to supply.

We will mention in the outset that no universal panacea will be found in its pages. We have never heard a secret worth knowing from, nor been cured of a deadly disease, by an Indian, or a seventh son of a seventh son, or any of the genus; the medical pretension of all which we utterly loathe and despise.

Preceded by a short introduction on Physiology, and a view of the Natural and Linnæan Systems, the work will be devoted to a separate consideration of each plant.—Together with our own information, we shall draw on the standard works on Chemistry, Botany, and Medicine, combining every useful item of knowledge, and without lessening its value, present it in a concise and pleasing form. Obtaining our supplies from the same sources as the bee, we hope to *secrete* as elegant a sweet for the mind, as it does for the body. The properties of each, more especially the medicinal, will be confirmed, in a great number of instances, by personal experience. To this will be added its history; its meaning in the language of flowers; and poetry, either original or selected from the gems of the children of song.

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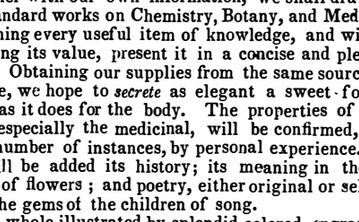

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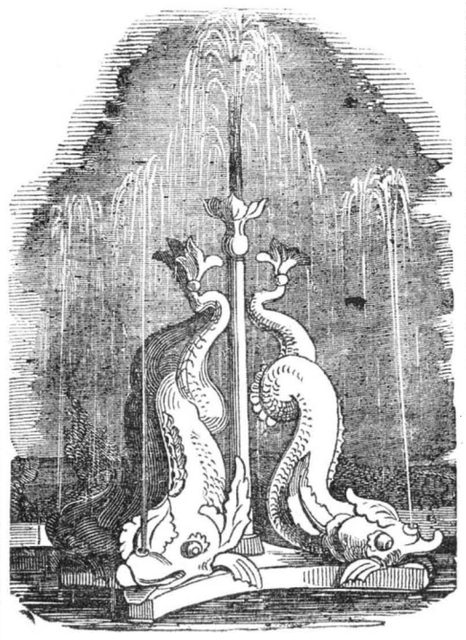

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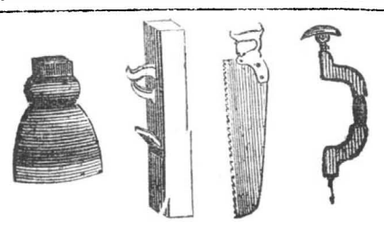

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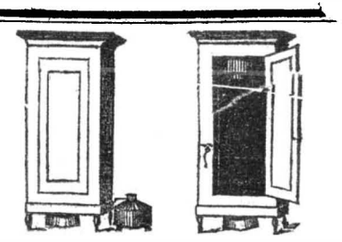

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